

GOODELL (W.)

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A CASE OF SPAYING FOR FIBROID TUMOUR OF THE WOMB.

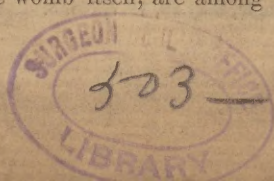
By WILLIAM GOODELL, A.M., M.D.,
PROFESSOR OF CLINICAL GYNECOLOGY IN THE UNIVERSITY OF PENNSYLVANIA.

SOME five years ago Dr. R. Battey startled the medical profession by proposing the removal of the ovaries for those mental or those physical disorders in women upon which menstruation exerts a pernicious influence. His theory was, and a plausible one it is, that, since many of these disorders are kept up by the monthly afflux of blood, and are therefore incurable during menstrual life, the only chance for their immediate relief lies in the establishment of an artificial menopause. To effect this change of life he advocated the extirpation of both ovaries, and labelled the operation Normal Ovariectomy. With this name fault has been found, because it does not cover the whole ground, for in some of the cases operated upon the ovaries were themselves diseased. Now, since it is important to distinguish this operation from that of ovariectomy proper, and since it is not easy to define it, except by circumlocution, I shall call it *spaying*—a term which as technically defines the character of the operation, as that of castration defines the analogous operation in the male.

Among the disorders of menstrual life which are made worse by the monthly determinations of blood to the womb, and for which spaying has been successfully tried are dysmenorrhœa, convulsions, pelvic hæmatoceles, and pelvic abscesses, recurring at the monthly periods. It has also been resorted to for supposed ovarian neuralgia, for hysteria and insanity with menstrual exacerbations, and for epilepsy with an ovarian aura. The success, however, in these latter cases has been qualified, because the origin of reflex symptoms is not always discoverable; because pelvic pains need not have an ovarian source; because hysteria, epilepsy, and insanity may be imponderables, or sheer brain lesions, and wholly unconnected with the sexual apparatus.

But about fibroid tumours of the womb there can be no doubt. The relation here between cause and effect is unmistakable. Their growth and their morbid effects are notably increased at each monthly flux, and notably lessened after the climacteric. In but few other pelvic disorders can we so positively single out the ovaries as the peccant organs.

Many fibroid tumours of the womb are harmless, giving small token of their presence. But when once they begin to give trouble there is no limit to the amount of suffering they may cause, while the means of relief at our disposal are limited. Hypodermic injections of ergotine often fail; electrolysis is yet in its infancy; avulsion of the fibroid or its enucleation can rarely be performed; whilst the removal of the tumour by abdominal section, or the extirpation of the womb itself, are among the most desperate remedies known to science.



Now if, under such conditions, we could by any means so lessen the sexual or the periodic congestions of the womb, as to shorten the blood-rations of these growths, the presumption is that the hemorrhages would either stop or abate, that the pains would become less cruel, and that the tumours would cease to grow. "You take my life," says Shylock, "when you do take the means whereby I live." The ovaries being then pre-eminently sexual organs, and, therefore, the means whereby these tumours live, *à priori* reasoning would suggest their extirpation. Let us see whether such logic has been sustained by clinical experience:—

Prof. E. H. Trenholme,¹ of Montreal, reports a case of interstitial and subperitoneal fibroids of the womb, in which the health began to fail from intolerable uterine tormina and from serious metrorrhagia. The os uteri was on five occasions slit open with a knife, and the mucous surface of the tumour freely cauterized with caustic potash. The relief following these operations being only temporary, the removal of the ovaries was decided upon. An abdominal incision, five inches in length, being accordingly made, "the ovaries were found low down in their normal position, and not above the brim of the pelvis, as the position of the uterus and fibroids would lead one to suspect." Each pedicle was ligated with carbolized white dressmakers' thread, No. 20, and dropped back. The patient recovered without a bad symptom, and on the twelfth day went out for a sleigh-ride. For three successive months after the operation she had a uterine hemorrhage. It then ceased, and the woman "gained much in flesh and strength." Two years later, under the date of January 28, 1878, Prof. Trenholme wrote to me about her as follows: "There have been occasional, but not regular discharges, to the extent of about a teaspoonful, of pure blood, and no appearance of menses otherwise. Patient is well enough to be at a medical college in ———. The tumour is rather smaller than when the operation was made. I regard the operation a success."

Two other cases are reported by Prof. Hegar,² of Freiburg. The women were perishing from hemorrhages caused by irremediable fibroid tumours of the womb. This distinguished gynecologist removed both ovaries from each woman by the abdominal incision. In each case convalescence was uninterrupted, the menopause was established, and the tumour became smaller. A fourth case is an unpublished one operated upon by Prof. Nussbaum, of Munich, and evidently with success, as the following extract from his letter to me would imply: "I performed the double ovariectomy in consequence of a fibrous state of the womb. In this case, the period appeared twice distinctly after the operation, and then it ceased altogether."

The fifth case happened in my own practice, and is as follows:—

A. B., aged 33, a literary maiden lady, began to menstruate when thirteen years old, but always with pain. Twelve years ago sacral pains and menorrhagia began to trouble her, and her dysmenorrhœa grew worse. Before long a constant and worrying pain developed in the left hypochondrium,

¹ Obstetric Journal of Great Britain, Oct. 1876, p. 430.

² Medical Times and Gazette, October 27, 1877, p. 466, from Centralblatt für Gynäkologie, May 26, 1877, No. 5.

which was unsuccessfully treated first as a malarial affection of the spleen, and afterwards as some lesion of the left kidney. Apart from this pain, she, in the autumn of 1875, began to suffer at her monthlies with an excruciating pain in the left ovarian region. It was a "twisting," a "rending," or a "bursting" pain, as she described it. One week before each monthly period this pain began, and steadily grew worse, until it became unbearable. The flow then appeared, but with no abatement of her sufferings. It lasted not less than a week, and was very profuse. Next followed a week of gradual mitigation of all these distressing symptoms. Thus three weeks out of every four were virtually spent by her in bed. Worn out by loss of blood and by her acute pains, which were finally pronounced to be nervous in their character, she, in the autumn of 1876, consulted my friend, Dr. Weir Mitchell. He at once suspected a uterine origin, and, in October, 1876, asked me to see her.

The lady was pale, thin, and bloodless, with a face furrowed by acute suffering. I found a virginal cervix lodged on the symphysis pubis, and a sharply ante-flexed womb imbedded in the hilus of a large and kidney-shaped fibroid tumour. Although the sound gave a measurement of but three inches, the tumour dipped down to the bottom of Douglas's pouch, and reached up to a point two fingers' breadth above the navel and to its left. The unexpanded cervix pouted out from one side of the tumour, bearing to it the same relation as the nose bears to the face. The fibroid was plainly subperitoneal, and not amenable to treatment per vaginam.

Thereafter, Dr. Mitchell and I met frequently. We first tried ergot, which, although evoking very severe uterine tormina, increased the bleeding. Once, indeed, while under its full action, she flooded so profusely as greatly to alarm her friends and her attending physician. Gallic acid did better, but it was not well borne by the stomach. Various other remedies, both local and constitutional, were resorted to without any benefit whatever. The only mixture which really did her any good was one of cinnamon water, containing in each tablespoonful ten grains of ammonium chloride, and one-twelfth of a grain of hydrargyrum bichloride. This was given thrice daily, and on it she at one time seemed to thrive. But the improvement was transient, and she soon steadily began to go down hill. Worn out by her sufferings, she became a monomaniac on the subject, and gave neither Dr. Mitchell nor myself any peace until she had extorted from us a promise to extirpate the womb. My chief objection to the operation lay in the encroachment of the growth upon the cervix, by which very little room was left for the application of a ligature.

While we were waiting for the summer to pass away, I happened to recall Trenholme's case (Hegar's two cases had not yet appeared in our medical journals), and we were led by his success to decide upon the removal of the ovaries.

No sooner was this decision announced to our patient than she insisted upon having the operation performed at once. She indeed grew so morbidly importunate and so unreasonable on the subject, as to make her friends apprehensive of insanity, but we firmly waited for the warm season to end. On October 4, 1877, with the aid of Drs. Weir Mitchell, John Ashhurst, C. T. Hunter, B. F. Baer, and W. Heath, I proceeded to operate. After placing our patient on her side, and after introducing the duck-bill speculum, I caught up by a uterine tenaculum a fold of the post-cervical mucous membrane, and with a pair of Kuchenmeister's scissors incised the vagina to the extent of about an inch and a half. The peritoneum being in like manner snipped open, I passed in my left index finger,

By pressing down the tumour with the free hand, I was now able to hook my finger into the sling made by the oviduct, and securely hold each ovary alternately, while I seized it with a fenestrated forceps, and brought it into the vagina. The stalk of each one was next transfixed with a double fine silk thread and securely tied. The ovaries were then removed, the ligatures cut off at the knot, and the stumps returned into the pelvic cavity. The right ovary looked healthy, but the left contained a small cyst. Very trifling was the loss of blood during the operation; no vessel needed tying, and not a suture was put into the vaginal wound.

Following this operation there was an immediate effacement of all the facial furrows of suffering. From that day she lost all those pains and aches which had embittered her menstrual life. No special surgical symptoms supervened, and her convalescence would have been uninterrupted, but for the reaction from the previous overstrain of her nervous system. An hysterical explosion spent itself in dyspnoea, in wandering pains and in paroxysms of great prostration and of excessive nausea. By firm moral treatment she got the whip-handle of herself, and did well. For two weeks after the operation her linen was stained by a slight oozing of blood, but whether it came from the wound or the womb I cannot say.

On the 16th she went home with hardly a pain or an ache. On the 20th I found her up and sewing. November 19th she came to my office in the highest spirits, overflowing with joy and gratitude. She had walked at one stretch last week ten Philadelphia blocks, which make just one mile. She sleeps without anodynes, and has a keen appetite. December 7th she came to consult me about the merest show of blood, which began five days ago and has lasted ever since. It barely stains her underclothing, and needs no guard; but she feels anxious lest it should turn out to be an effort at menstruation. If it be indeed a monthly period, it is the first one since the operation, and the first one for many years which she has not spent in bed and in great agony. The Sunday following she walked fully one mile to church, joined without fatigue in its rites, and returned home on foot. So impressed was she by this proof of returning health, that she at once wrote me a grateful letter of thanks.

December 17th. To-day she consulted me about a soreness high up in the vagina, and about the slight weeping of blood, which had not yet stopped. For the first time since the operation I examined her, and found on the site of the wound a small caruncle or neuroma, which bled at the slightest touch, and was extremely sensitive. After blunting its sensibility with carbolic acid I snipped it off. I took this opportunity to make a careful examination, and, to my surprise, found the womb astonishingly lessened in size, fully one-half. Instead of reaching to two fingers' breadth above the navel, the top of the tumour now lay half-way between the navel and the symphysis pubis. By February 20, 1878, she had gained twelve and a half pounds in weight, and was looking and feeling extremely well. The tumour is now so much reduced in size as to need searching after. That portion of it which filled up Douglas's pouch has disappeared. The rest lies behind and below the pubic arch.

April 4th. It is only from my previous knowledge of her case that I was enabled to-day to discover a slight fibroid enlargement of the womb. This information was gained by careful double palpation, for the sound gives a natural length to the womb. Since this date I have repeatedly seen her, but have not made any further uterine examination. She has not passed a single day in bed since her convalescence from the operation, and practically is wholly cured of her disorder.

Thus we see that clinical experience has, to a remarkable degree, sustained the logic of *à priori* reasoning, and that, in certain conditions of fibroid tumour, the removal of the ovaries is a warrantable operation. But under what conditions does it so become? And does it offer the best chance of rescuing a woman from hopeless suffering or from an early death? For, of course, unless there be danger or great suffering, no such radical operation for a fibroid tumour of the womb would be justifiable.

Whenever the growth projects fairly into the uterine cavity, there can be no question that its removal by avulsion should always be first tried. Of the value of this operation I can speak in positive terms, having performed it six times. In all, the operation was by no means easy, and in two very tedious—the tumour being removed piece-meal—but then no vestige of the parasite was left behind, and the women were restored to complete health, save in one instance, in which death from heart-clot took place on the sixteenth day after the operation. Unfortunately, however, the fibroid does not often lie under the mucous membrane. Its site is usually under the peritoneum or within the uterine wall, and therefore this operation becomes available in only a small percentage of cases.

In instituting a comparison between spaying and the enucleation of the fibroid per vaginam, it might, at first blush, seem the better to resort to the latter means. Firstly, because such an operation would bring about an absolute cure. Secondly, because the tumour is a foreign body—an excrescence—whose removal would make the woman a more perfect creature. Further, the ovaries are important organs, and their extirpation means mutilation, a mutilation causing barrenness and possibly marked psychological changes. Nor, indeed, can we positively depend upon such a mutilation to bring about the menopause or any reduction in the bulk of the tumour. But, as a make-weight, the offending growth is generally mural or subperitoneal, and therefore inaccessible; whilst even in that rarer form, which bulges into the uterine cavity, the operation of enucleation cannot always be undertaken. On the other hand, the ovaries can always be removed, and that by a completed operation which is relatively less serious than either successful or unsuccessful attempts at enucleation. Out of twenty-eight cases of enucleation collected by West, fourteen proved fatal.¹ As regards three of my own cases, in which the capsule of the tumour was merely cut through to a limited extent, and partly peeled off, one died of peritonitis within seventy-two hours; in another the tumour subsequently enucleated itself; in the third no appreciable change took place in the tumour, but the hemorrhages ceased. In view of these facts, I am by no means sure that when the question comes to lie between the removal of the ovaries and the gradual enucleation of a fibroid imprisoned by an undilated os uteri, the former will not be the operation of the future.

When, however, vaginal enucleation is impracticable, and the question

¹ Diseases of Women, p. 307.

is reduced to one of three, viz., spaying, or enucleation by gastrotomy, or the extirpation of the invaded womb, there is to my mind but one answer, and that one in favour of spaying. My reasons for expressing this belief are, the greater mortality of the other two operations, and the greater mutilation made by the last one. Thus Kœberlé, of Strasbourg, has collected twenty cases of gastrotomy, with extirpation of pedunculated fibrous tumours of the womb, by ligature or by enucleation. Yet, although these growths had stalks, and were, therefore, in the best possible condition for being removed, twelve women out of the twenty perished. Again, Dr. Pozzi, of Paris, has published an elaborate thesis upon *The Value of Hysterotomy in the Treatment of Fibrous Tumours of the Womb*, in which he furnishes seventy-five new cases of this operation above the number previously collected by Kœberlé, Caternault, and Péan. His statistical tables thus embody one hundred and nineteen cases in which gastrotomy was performed for the removal of fibroid tumours of the womb. Of these 77 were fatal and 42 successful. Arguing from 18 other cases, 10 of them being his own, Dr. G. Kimball, from whose excellent paper on *Extirpation of the Uterus*¹ I glean this information, makes the following comment on Pozzi's statistics: "There is good reason to believe that, upon an honest count of the entire number of such operations, it would be seen that but a small proportion of them have ever been brought before the profession; and as for results, it is probably not unjust to suppose that at least eight out of every ten such cases have proved fatal." "The uterus," writes Dr. Thomas Keith, "has been pretty frequently removed in Scotland, but all the cases proved fatal with the exception of my solitary three. I need hardly say that the fatal cases are never published."²

Thomas³ gives two tables. In one there are recorded 18 deaths to 6 recoveries. In the other, which he deems the more trustworthy, there stand 11 deaths to one recovery.

In view of such a frightful mortality, to say nothing of the great mutilation of the survivors, extirpation of the womb for fibroid tumour, while not absolutely unjustifiable, should never be resorted to except as an extreme measure; and, in my opinion, not until every other known means, including spaying, has previously been tried. I am not, indeed, sure that in cases of sessile, fibro-cystic tumours existing during menstrual life, it would not be well first to try to arrest their growth by the ablation of the ovaries, before resorting to the major operation.

In contrast with this appalling death-record, every published case of spaying for fibroid has, up to the present time, proved successful, not only in so far as life is concerned, but also in its effect upon the tumour. But since the number of these cases is too small to establish general conclusions, it would here be a pertinent inquiry to analyze all the known cases of spaying. By this means we shall discover, firstly, the general mortality

¹ Transactions American Medical Association, vol. xxviii. 1877, p. 322.

² Ibid.

³ Diseases of Women, 1874, p. 520.

of the operation ; and, secondly, the relative mortality between the abdominal and the vaginal incision.

The following table shows the number of times the operation of spaying has been performed, the name of each operator, the mode of operating, and the number of deaths :—

Operator.	Number of cases.	Abdominal incision.	Recovery.	Death.	Vaginal incision.	Recovery.	Death.
Dr. R. Battey ¹	12	2	2	...	10	8	2
Dr. Marion Sims ²	7	3	2	1	4	4	...
Dr. George J. Engelman ³	3	3	...	3	...	...	...
Dr. Hegar, of Freiburg ⁴	2	2	2	...	...	...	...
Dr. T. G. Thomas ⁵	2	2	1	1	...	...	...
Dr. E. H. Trenholme ⁶	2	1	1	...	1	1	...
Dr. Wm. Goodell	2	...	...	...	2	2	...
Dr. E. R. Peaslee ⁷	1	1	...	1	...	...	...
Dr. T. T. Sabine ⁸	1	1	1	...	...	...	...
Dr. J. von Nussbaum, ⁹ of Munich	1	1	1	...	...	...	...
	33	16	10	6	17	15	2

To these I think it but fair to add the seven cases of vaginal ovariectomy which I have published elsewhere.¹⁰ In these cases the cysts ranged in size from an orange to the womb at term, yet in not one instance was the operation followed by death.

From the above table, then, it appears that out of a total of thirty-three cases of spaying eight have died. As regards the relative value of the two modes of performing the operation, it will be seen that out of sixteen cases in which the abdominal incision was employed six died ; whilst, out of the seventeen cases in which the ovaries were removed by the vaginal incision, only two died. Now, if to the latter be added the seven cases of vaginal ovariectomy, we shall have but two deaths in a total of twenty-four cases in which one ovary or both ovaries have been removed *per vaginam*.

The ancients evidently deemed this operation a comparatively harmless one, and not unfrequently resorted to it. Strabo and other writers aver that "certain kings of Lydia caused the ovaries of women to be removed,

¹ Trans. Am. Gynæcological Soc., vol. i. p. 119.

² British Med. Journal, Dec. 8, 1877.

³ Personal communication, March 30, 1878.

⁴ Centralblatt f. Gynäkologie, May 26, 1877, No. 5.

⁵ Trans. Am. Gynæcological Soc., vol. i. p. 352.

⁶ Obstetrical Journal of Great Britain, October, 1876, p. 426.

⁷ Trans. Am. Gynæcological Soc., vol. i.

⁸ New York Med. Journal, January, 1875, p. 41.

⁹ Personal communication, February 12, 1878.

¹⁰ A Case of Vaginal Ovariectomy. By Wm. Goodell, M.D., published in Transactions American Gynæcological Society, vol. ii. 1877.

using them sometimes in their service and sometimes for their pleasure.”¹ Then, there is that oft-told story of the Hungarian sow-gelder, who is said to have cured the lewdness of his daughter by removing her ovaries. In these cases, moreover, the incision was undoubtedly abdominal. Yet it is a curious fact, established by Englisch,² that of the cases in which extirpation of a healthy irreducible ovary was performed for hernia of that organ, one-half died of subperitoneal inflammation and its results.

The next question which presses for an answer is : How shall the operation be performed ? From the foregoing table it appears that the vaginal operation is the safer one. This is undoubtedly attributable to the greatly lessened exposure of the peritoneum, and to the dependent drainage opening. Whether it is as easy an operation as the other remains yet to be seen. Whenever the ovaries are carried up by a large tumour, they may lie beyond the reach of the finger introduced *per vaginam*. Yet in my case, in spite of a tumour of great size, the glands were caught and extirpated with no great difficulty, much less, in fact, than in my second case of spaying, one for pernicious menstruation threatening insanity, in which there was no tumour to dislocate the ovaries.

In an analogous case, Trenholme found the ovaries “low down in their normal position, and not above the brim of the pelvis, as the position of the uterus and fibroids would lead one to suppose.” Again, strong pelvic adhesions may interfere with such a mode of spaying. Thomas reports a case in which he attempted to remove, *per vaginam*, an ovary as large as an egg, but failed on account of abundant adhesions.³ The gland was finally extirpated by the abdominal incision, but fatal peritonitis set in. Sims says of one of his cases,⁴ “The ovaries were firmly bound down by strong bands of false membrane, and it was impossible for me to dislodge them. . . . I was forced to abandon the operation.” Battey writes of his fourth case that, owing to pelvic adhesions, “it was found to be impracticable to isolate the gland entire, and I contented myself with such disintegration as I could effect with my finger-nail.” Cases eight and nine of his series “were so complicated with pelvic deposits of lymph that it could not be asserted that the ovaries were cleanly removed.” If, however, the operation through Douglas’s pouch should fail, the final resort could always be made to the abdominal incision, and the abandoned vaginal incision be utilized as a drainage opening.

Candour compels me to note one very serious drawback to the operation of spaying. For some inexplicable reason, the removal of both ovaries does not always bring about the desired “Change of Life.” Ovulation, of course, ceases, but a periodical metrostaxis may go on as before. Now, it is not within the scope of this paper to discuss the theory of this non-ovular menstruation ; whether it be due to the force of habit, or to a law

¹ Ovarian Tumours. By E. R. Peaslee, M.D., ed. 1872, p. 226.

² Sydenham Year Book, 1871-72, p. 293.

³ Transactions American Gynæcological Society, vol. 1. p. 352.

⁴ British Medical Journal, December, 1877.

of periodicity, or to some fragment of ovarian stroma left behind by the operator, or to supplemental ovarian tissue contained between the peritoneal layers of the Broad Ligament. What we, as practical physicians, have to deal with is the important and unexpected fact that uterine discharges of blood sometimes keep on long after the ablation of both ovaries. This being the case, it will be pertinent to inquire how far we may depend upon such an operation to put an end to the menstrual flux. In other words, what proportion of women who have lost both ovaries menstruate?

It is a fact worthy of note that during the week following the ablation of one or both ovaries, a sanguineous discharge usually takes place from the womb. This happened in both of my cases of spaying, but it is in no wise a menstruation, but a metrorrhaxis set up by the irritation of the ovarian nerves caused by the means adopted to secure the pedicle. It is therefore more likely to happen when both ovaries are removed, for then two sets of ovarian nerves are injured by the clamp, or the ligature, or the écraseur. Such fluxes, even when repeated once or twice, do not mean a continuance of menstruation, and I have so labelled them in my tables.

To obtain the data for the following tables much correspondence was needed, and I here take the opportunity of recording my thanks to the distinguished gentlemen, at home and abroad, who were kind enough to answer my inquiries. Among the last letters written by the lamented Peaslee was one giving me his personal experience on this point.

Table of Cases in which so-called Menstruation kept on after the Removal of both Ovaries.

No.	Operator.	Age	Quoted from:—	Menstruation.
1	Verneuil, M.	36	Annales de Gynécologie, August, 1877, p. 145	None for 6 months, then for 6 months every alternate mo. afterwards regularly.
2	Storer, H. R.	..	American Journal of Med. Sci., January, 1868, p. 81	Uninterrupted.
3	Atlee, W. L.	35	Atlee's Ovarian Tumours, p. 35	"
4	" "	31	" " " "	"
5	" "	40	" " " " p. 38	"
6	" "	..	Personal communication, dated Dec. 17, 1877	For 5 months, then died.
7	Meadows, A.	..	Lancet, 1872, p. 290	For 6 months, was then lost sight of.
8	" "	..	Am. Supplement to Obstet. Journ. of Great Britain, vol. ii. p. 5	For 3 months after operation, and then was lost sight of.
9	Jackson, R. A.	44	Chicago Med. Journ., Oct. 1870, p. 585	Uninterrupted.
10	Le Fort	..	" " " "	"
11	Brown, I. Baker	..	" " " "	Irregular.
12	Koberlé	..	Peaslee, Ovarian Tumours, p. 528	All of the womb excepting cervix was also removed.
13	Batley, R.	35	Trans. Am. Gynæc. Soc., vol. i. 1877, p. 119	At intervals of from 3 to 7 months.
14	Thomas, T. G.	..	Am. Journ. of Obstetrics, Oct. 1877, p. 665	Irregular for 6 months, when last heard of.
15	Kimball, G.	48	Personal communication of January 22, 1878	Irregular for 5 months, when she died.
16	Trenholme, E. H	32	Obstetric Journ. of Great Britain, Oct. 1876, p. 425, and per. com.	Irregular discharges of a drachm of blood.
17	Burnham, W.	32	Personal communication of January 18, 1878	Regular, but less in quantity.
18	Thornton, J. K.	24	Obstetric Journ. of Great Britain, Feb. 1878, p. 723	Irregular, but with relief to flushes and headache.
19	Wells, T. S.	29	Diseases of Ovaries, p. 434	Uninterrupted.
20	Bird, F.	32	Lancet, October 30, 1847, p. 467	"

Another very curious and unexpected fact elicited by these inquiries, is the recurrence of so-called menstruation, even after the removal of the womb itself together with ovaries. Kæberlé¹ notes such a circumstance as occurring in a case in which the cervix uteri alone was left behind. Storer² completely extirpated the womb and ovaries, yet on the nineteenth day a sanguineous discharge, lasting thirty hours, took place from the vagina. Burnham writes to me that after such an operation, "several months after the recovery, seemingly a perfect one, there occurred from the vagina quite a copious discharge, tinged with blood, which continued for one day, and was never followed by any recurrence."

After such facts as these, one is prepared to accept the further statement that menstruation not only has gone on, but has become excessive, after cystic or other disease has invaded both ovaries and wholly destroyed them—at least, apparently so. Examples of this kind are furnished by Bühring and Beigel, and by Mayrhofer,³ who quotes them. A very interesting case is told by M. Terrier.⁴ He removed one ovary for cystic disease. The woman died two years after, and, although the remaining ovary was found wholly altered and cystic, she had menstruated up to the time of her death. Sinety makes an analogous observation,⁵ which, however, is beyond my reach. But the climax is reached by Atlee,⁶ who gives two cases in which, one ovary having been removed, the other became so diseased as to need repeatedappings, and yet each woman not only menstruated but gave birth to a child.

From these tables it appears that out of ninety-eight cases of extirpation of both ovaries during menstrual life, there were twelve which had, so far as I can learn, regular monthly fluxes, and eight in which such fluxes were either irregular or lessened in amount.

This is a large average, much larger than one would suspect. But, although very carefully educed, it is, I am sure, untrustworthy, and for the following reason: Every case of double ovariectomy has not been published; but, so opposed to our preconceived ideas is the recurrence of menstruation after the removal of both ovaries, that every such case has been deemed worthy of note. Acting on this presumption I have included in my table of arrested menstruation some cases in which no allusion has been made by the operator to the subsequent menstrual history; taking it for granted that had a monthly flow continued the fact would have been deemed of sufficient importance to be noted.

¹ Peaslee on Ovarian Tumours, p. 528.

² Am. Journal of Medical Sciences, January, 1866, p. 119.

³ Wiener Medizinische Wochenschrift, Feb. 1875, p. 130.

⁴ Bulletin et Mém. de la Société de Chirurgie, 1876, t. ii. p. 551.

⁵ Bulletin de la Société de Biologie; Séance Decembre 2, 1872.

⁶ Atlee, Ovarian Tumours, pp. 38 and 39.

Table of Cases in which the Removal of both Ovaries during the Menstrual period of life was followed by the Cessation of the Menses.

No.	Operator.	Age	Quoted from:—	Remarks.
1	Pott, Percival	23	Peaslee on Ovarian Tumours, p. 226	No menstruation.
2	Peaslee, E. R.	24	Am. Journ. Med. Sci., April, 1851, p. 385	"
3	" "	39	Am. Journ. Med. Sci., July, 1864, p. 47	"
4	" "	35	Am. Journ. Med. Sci., July, 1865, p. 98	"
5	" "	22	Personal communication, Jan. 5, 1878	"In three of these cases there was metrostaxis occurring from one to four days after the operation, and continuing from two to four days."
6	" "	27	Personal communication, Jan. 5, 1878	
7	" "	28	Personal communication, Jan. 5, 1878	
8	" "	31	Personal communication, Jan. 5, 1878	
9	" "	31	Personal communication, Jan. 5, 1878	
10	" "	34	Personal communication, Jan. 5, 1878	
11	" "	37	Personal communication, Jan. 5, 1878	
12	" "	37	Personal communication, Jan. 5, 1878	
13	Atlee, J. L.	29	Am. Journ. Med. Sciences, 1844, p. 44	No menstruation.
14	Atlee, W. L.	19	Ovarian Tumours, p. 36	No red menstruation, but a white discharge.
15	" "	..	Personal communication, Dec. 17, 1877	No menstruation.
16	Hegar	..	Centralblatt f. Gynäk., May 26, 1877, No. 5	"
17	"	..	Centralblatt f. Gynäk., May 26, 1877, No. 5	"
18	Storer, H. R.	43	Chicago Med. Journ., Oct. 1870, p. 559	One sanguineous discharge.
19	Kimball, G.	..	Personal communication of Jan. 22, 1878	"Menstruated once, but only once."
20	" "	..	Personal communication of Jan. 22, 1878	"No symptoms of menstruation of any kind whatever."
21	Thomas, T. G.	..	Trans. Am. Gynec. Soc. vol. i. 1877, p. 352	Metrostaxis for 5 months, then stopped.
22	" "	..	Am. Journ. of Obstetrics, Oct. 1877, p. 665	No menstruation.
23	" "	..	Am. Journ. of Obstetrics, Oct. 1877, p. 665	" "
24	" "	..	Am. Journ. of Obstetrics, Oct. 1877, p. 665	" "
25	" "	..	Am. Journ. of Obstetrics, Oct. 1877, p. 665	" "
26	" "	..	Am. Journ. of Obstetrics, Oct. 1877, p. 665	" "
27	" "	..	Am. Journ. of Obstetrics, Oct. 1877, p. 665	" "
28	" "	..	Am. Journ. of Obstetrics, Oct. 1877, p. 665	" "
29	Burnham, W.	28	Personal communication of Jan. 18, 1877	" "
30	" "	36	Personal communication of Jan. 18, 1877	One profuse discharge; died 4 months later from cancer.
31	" "	38	Personal communication of Jan. 18, 1877	No menstruation, but patient soon lost sight of.
32	" "	48	Personal communication of Jan. 18, 1877	Two hemorrhages at 3 months' interval.
33	Dunlap, A.	..	Personal communication of Jan. 24, 1878	Menstruation never returned.
34	" "	..	Personal communication of Jan. 24, 1878	" " "
35	Spiegelberg, O.	..	Personal communication of Feb. 11, 1878	"Never heard that these women ever since menstruated."
36	" "	..	Personal communication of Feb. 11, 1878	

¹ Although this woman was 48 years old I include her case, because her menstruation would probably have continued several years longer, as she miscarried of twins six weeks before operation.

No.	Operator.	Age	Quoted from:—	Remarks.
37	Nussbaum	..	Personal communication of Feb. 12, 1878	One metrostaxis.
38	"	..	Personal communication of Feb. 12, 1878	"The period appeared twice distinctly, then ceased altogether."
39	"	..	Personal communication of Feb. 12, 1878	No menstruation.
40	"	..	Personal communication of Feb. 12, 1878	" "
41	"	..	Personal communication of Feb. 12, 1878	" "
42	"	..	Personal communication of Feb. 12, 1878	" "
43	Batley, R.	34	British Medical Journal, Dec. 8, 1877	Atresia vaginæ; dreadful menstrual molimina cured.
44	"	..	Trans. Am. Gynecological Soc. vol. i. 1877, p. 119	No menstruation.
45	"	..	Trans. Am. Gynecological Soc. vol. i. 1877, p. 119	For several months menstrual molimina came back without discharge.
46	Clay, C.	..	Chicago Medical Journal, Oct. 1870, p. 587	Three of these cases had one metrostaxis.
47	"	..	Chicago Medical Journal, Oct. 1870, p. 587	
48	"	..	Chicago Medical Journal, Oct. 1870, p. 587	
49	"	..	Chicago Medical Journal, Oct. 1870, p. 587	
50	Kœberlé	37	Peaslee, Am. Journ. Med. Sci., Jan. 1865, p. 98	No menstruation.
51	Brown, I. B.	45	Peaslee, Am. Journ. Med. Sci., Jan. 1865, p. 98	" "
52	Byford, W. H.	..	Personal communication, dated Dec. 28, 1877	No menstruation. All were under observation from two- and a half to five years after the operation.
53	"	..	Personal communication, dated Dec. 28, 1877	
5	"	..	Personal communication, dated Dec. 28, 1877	
55	Sabine, T. T.	..	Personal communication, dated Feb. 11, 1878	"Not the least sign of menstruation."
56	Wells, T. S.	37	Diseases of Ovaries, 1873, p. 434	No menstruation.
57	"	34	" " " "	"
58	"	39	" " " "	"
59	"	22	" " " "	"
60	"	39	" " " "	"
61	"	22	" " " "	"
62	"	36	" " " "	"
63	"	26	" " " " p. 449	"
64	Jackson	27	" " " " p. 475	"
65	Sims, J. M.	29	Am. Med. Times, June, 1862, p. 335	Second ovary forced out by vomiting, and shrunk away.
66	Tait, L.	..	Tait's Diseases of Women, Lond. 1877, p. 285	No menstruation whatever.
67	Emmet, T. A.	35	Personal communication, April 27, 1878	One metrostaxis.
68	"	39	Personal communication, April 27, 1878	No menstruation.
69	Greene, W. W.	..	Boston Med. and Surg. Journ., March 2, 1871, p. 138	Each had the usual sanguineous discharge once, and one twice.
70	"	..	Boston Med. and Surg. Journ., March 2, 1871, p. 138	
71	"	..	Boston Med. and Surg. Journ., March 2, 1871, p. 138	
72	"	..	Boston Med. and Surg. Journ., March 2, 1871, p. 138	
73	Keith, T.	42	Edinburgh Medical Journal, Jan. 1866	Each had the usual sanguineous discharge shortly after the operation.
74	"	32	Edinburgh Medical Journal, December, 1866	
75	"	49	Edinburgh Medical Journal, November, 1867	
76	"	42	Edinburgh Medical Journal, December, 1867	
77	Goodell, W.	33		One metrostaxis.
78 ¹	"	27		" "

¹ In the British Medical Journal (January 26, 1878, p. 125) eleven additional cases of double ovariectomy are reported, but, since neither the age nor the menstrual history of the patient is given, I am unable to utilize them.

The actual percentage, then, of recurring menstruation is not large enough to deter one from performing this operation for the purpose of establishing the menopause. But, granting that menstruation keeps on, will its continuance impair the success of the operation? Now, although menstruation, in the sense of a monthly flow of blood, may not cease, yet ovulation ends, and with it the ovular molimen. Consequently such a metrostaxis is merely a blood-leakage, and therefore unattended by that assemblage of nervous and congestive determinations, and by all those reflex symptoms which unite to make up the molimen of pernicious ovular menstruation. To that extent, therefore, may we hope for benefit. Thus, in Battey's first case, although an irregular uterine hemorrhage continued, the woman was cured of very distressing menstrual symptoms, for the relief of which the operation was undertaken. Trenholme's case proved a success in spite "of occasional but not regular discharges" of blood.

Does spaying after puberty unsex a woman? So far as can be ascertained it does not; at least not more than castration after puberty unsexes a man. In the one the ability to inseminate is lost; in the other the capability of being inseminated; but in both the sexual feelings remain pretty much the same. Males who have lost their testes after the age of puberty retain the power of erection, and even of ejaculation; but the fluid is, of course, merely a lubricating one. The amorous proclivities of the ox or of the steer are the scandal of our streets. Alive to these facts, oriental jealousy demands in a eunuch the complete ablation of the genital organs.¹ Not only are the testes therefore removed, but also the scrotum and the penis. Hence, to avoid the soiling of his clothes, every eunuch carries a silver catheter in his pocket. The seat of sexuality in a woman has long been sought for, but in vain. The clitoris has been amputated, the nymphæ have been excised, and the ovaries removed, yet the sexual desire has remained unquenched. Its seat has not been found, because sexuality is not a member or an organ, but a sense—a sense dependent on the sexual apparatus, not for its being, but merely for its fruition. On this account I have quite recently refused to remove the ovaries from a young woman who is afflicted with uncontrollable nymphomania, although both she and her physician urged the trial of the operation.

In confirmation of these views, Battey notes² in his cases of spaying the persistence of aphrodisiac power—a persistence so constant as to forbid any expectation of curing nymphomania by the operation. Nor in any of them was "there a loss of the womanly graces, but, on the contrary, the patient gains flesh, and becomes even more attractive." This opinion is sustained

¹ North American Medico-Chirurgical Review, May, 1861, p. 500; New York Medical Record, June, 1870, p. 190; Medical and Surgical Reporter, April 24, 1875, p. 329.

² Transactions American Gynecological Society, 1876, p. 119.

by Wells, and also by Peaslee, who writes:¹ "Double ovariectomy as a rule is not followed by any loss of the special characteristics of woman; the only decided physiological change being a final cessation of menstruation, as well as of ovulation. Three of my own patients, married and highly educated ladies, after recovery again became splendid examples of womanhood, enjoying the most perfect health, and retaining all their former attributes of mind, as well as of body, and with undiminished sensory capacities in their matrimonial relations." Atlee reports a case of double ovariectomy, in which marriage took place after the operation, as "the sexual feelings were normal." Six months after the operation Verneuil found² his patient with well-developed breasts, and decidedly fatter. "She, in fact, seemed far more of a woman than before the operation." In the one of my two cases the physical condition of the woman was in every way improved. She became more plump and better looking. All traces of suffering were effaced, and she is not conscious of any psychological changes. In the other, a lady under the professional care of my friend, Dr. Charles A. McCall, I performed the operation on the 19th of last March, and a sufficient length of time has not yet elapsed to warrant any definite conclusions on this point. I may, however, say that, up to the present time, she is just as womanly, and as much of a woman as she was before the operation.

¹ Diseases of the Ovary, p. 530.

² *Annales de Gynécologie*, August, 1877, p. 146.

